

HOW TO AVOID FUTURE UXO PROBLEMS BY PEERING INTO THE PAST

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How to Avoid Future UXO Problems by Peering Into the Past

Why do you peer into the past? What purpose does it serve to go through a lot of old records? When a defense site (current or formerly used) is identified, the next step is not to hire a contractor to just go out and clean it up. Some sites encompass thousands of acres. First you must define the site and determine where the major areas, such as the cantonment or administration area were located. Pin-point where maintenance shops, housing areas, runways, general storage, and property boundaries were. These are areas, that in all likelihood, have no ordnance presence and will not require sensor detection testing.

Where might one look to catch a glimpse of the past? One of the best sources to start a historical records search is the National Archives and Records Administration (NARA), with multiple facilities in the National Capitol region (NCR) and thirteen regional facilities. DOD service repositories, other government and non-government repositories, libraries, on-line data bases, and personal interviews are also excellent sources of information.

How does looking into the past help characterize a former or active site for UXO?

Determining the types of ordnance used at a site and deciding which area may have been the impact area of an artillery range, a bombing target, or a grenade court will help make the cleanup more efficient. Often times official records of a site were stored at the national archives or one of the regional facilities and forgotten over the years. Aerial

photographs, historical photographs, deeds, real estate documents with range and township coordinates, physical descriptions, and general range locations may be there for a thorough researcher to discover. The answer or key to the puzzle is uncovered by methodically looking at documents such as general correspondence, old forms, letters and reports.

Why is it so important to locate these old documents? By sifting through old documents, it is possible to determine the exact location of an impact area, a washout lagoon, or a burial site. Accurate historical information of a site can save countless resources. The very nature of UXO determines its detection and unearthing must be a carefully controlled operation. Present technology for detecting subsurface UXO is extremely labor intensive. Eliminating areas that will not require testing with a sensor detector, such as a magnetometer, can save untold resources. On the average, cleanup of one acre of UXO to a three to four foot depth, under normal conditions, is \$7,000. Normal conditions being no brush clearance needed prior to testing and a relatively flat terrain. Using the average of \$7000 per acre cleanup costs multiplied by all the acres administratively eliminated, it is easy to calculate the cost avoidance. New ideas and systems in sensor detection are constantly being developed, tested and fielded. The emerging technologies have not yet solved the many complex problems involved in UXO detection or site characterization. The major problem is the ability to discriminate between anomalies. Present technology can not tell us if the anomaly is UXO or if it is merely metal scrap. To save time and money, it is imperative to locate all pertinent information concerning each individual site before personnel are sent in to clean it up.

What must a site characterization include? As a minimum, a site characterization for OE must include an evaluation of the ordnance hazard. The evaluation will include the type, density, location, and depth of the ordnance that was used on the particular site, and a risk assessment of the OE hazards. Old maps, historical documentation, aerial photographs, and results of other investigations are good sources. Any hazardous toxic radioactive waste (HTRW) or building demolition/debris removal (BD/DR) considerations uncovered are additional information that will present a well-rounded picture of the site and should be included. How residual UXO may effect the cleanup is often determined by the site topography, climatology, geology, hydrology, land usage, (past, present and future), location, and natural, historical, and cultural resources.

When developing a final strategy for UXO removal/site remediation, each site is considered individually. Cookie cutter solutions are not the answer. Safety for the workers, the general public, and the environment are paramount considerations. Proven solutions of past actions, innovative or new technology, land end use, and cost are a few of the other factors considered in developing the final strategy. All of the elements of an OE site characterization are also primary considerations (i.e., topography, climatology, geology, hydrology, and natural, historical, and cultural resources, etc.).

How can a properly developed strategy allow DOD managers to effectively clean a site? Knowing what type of munitions were used on the site and what the land end use will be are the basis of the cleanup strategy. For example: Compare two sites that were used for

the same purpose during WWII. If one site will be used for a park with crowds of visitors each year and the other site is destined to be grazing or pasture land, the cleanup strategy for each will be much different.

Thorough historical research and site investigation are the foundation of an Archives Search Report (ASR) that will determine the best cleanup strategy. Looking into the past and collecting the data will affect the cleanup in a positive manner. It will help avoid future UXO problems by providing you with accurate and adequate information.

How will this help in characterization of a site, a range in particular, when the Range Rule becomes effective? Historical documentation will again be a key piece of information determining history, past use, and ordnance summary of a range. New issues are continually evolving. The political climate, resource limitations, environmental issues, public awareness and concern will all play a part in Range Rule OE site characterization. Tidbits, scraps, and snippets of information alone may mean nothing. Collectively, however, they can build a mosaic of what transpired on a site. This mosaic can be used to identify areas that have ordnance presence, the potential for ordnance presence, or that do not have ordnance presence.

None of us can look into the future but we most certainly can look into the past